

- Abb. 8: a — *Annitella chomiacensis* Dziedz. ♂. Genitalanhänge in Seitenansicht.
 b — *Annitella chomiacensis* Dziedz. ♂. Genitalanhänge von hinten gesehen.
 c — *Annitella chomiacensis* Dziedz. ♂. Klauen des X. Segments.
 d — *Annitella chomiacensis* Dziedz. ♀. Genitalanhänge in Seitenansicht.
 e — *Annitella chomiacensis* Dziedz. ♀. Genitalanhänge von hinten gesehen.
- Abb. 9: *Anisogamus aequalis* Klap. ♂. Genitalanhänge von hinten gesehen.
 b — *Anisogamus aequalis* Klap. ♂. Genitalanhänge in Seitenansicht.
 c — *Anisogamus aequalis* Klap. ♀. Genitalanhänge von hinten gesehen.
 d — *Anisogamus aequalis* Klap. var. *czarnohorensis* Dziedz. ♂. Die Flügel.

Buchstabenbezeichnungen.

- A. i. — Genitalfüße.
 A. m. — Klauen des X. Segments.
 A. s. — Appendices praeanales.
 L. sbg. — Subgenitalplatte.
 L. spg. — Supragenitalplatte.
 P. — Penis.
 P. d. — Dorsalklappe des Penis.
 P. v. — Ventralklappe des Penis.
 R. l. — lateraler Ast.
 R. m. — medianer Ast.
 T. — Titillatoren.

Neue Literatur.

Kühtreiber, Jos., Die Plecopterenfauna Nordtirols. 219 Seiten mit 127 Textfig., 6 Taf. und 1 Karte. (Aus dem zool. Inst. d. Univers. Innsbruck.) 1934. 8. Preis Rmk. 10.—.

Einleitend berichtet Verfasser über sein Arbeitsgebiet, welches z. T. (Umgebung Innsbrucks) planmäßig durchforscht wurde. Soweit als möglich wurden „alle Gewässertypen und alle Höhenstufen vom tiefsten Talgrunde bis an die Ewigschneegrenze“ untersucht. Seine Studien erstreckten sich über einen Zeitraum von mehr als 2 Jahren und es ist daher wahrscheinlich, daß der weitaus größte Teil der im Gebiete vorkommenden Arten gefunden und behandelt wurde. Es folgen dann kurze Anweisungen über das im allgemeinen höchst einfache Sammeln der Imagines und Larven sowie über die Aufzucht der letzteren, die am besten am Fundorte selbst durchzuführen ist.

Die sehr schöne und ausführliche Studie gliedert sich in 3 Hauptabschnitte; in einen systematischen Teil, der in seiner ersten Abteilung neben allgemeinen Bemerkungen über die Organisation der Plecopteren und ihrer Larven, Phylogenie (Fossilien) und Variabilität, Bestimmungsschlüssel und ausführliche Beschreibungen, in die auch zahlreiche kritische Bemerkungen eingestreut werden, enthält. Eine große Zahl von Abbildungen der Genitalarmaturen, von Kopf- und Mundteilen sowie Flügelgeäder-Darstellungen der 45 im Gebiete festgestellten Arten tragen zur leichteren Bestimmung wesentlich bei. Fundortangaben, Bemerkungen über Vorkommen und Verbreitung ergänzen die einzelnen Beschreibungen. Im 2. Hauptabschnitt werden die Larven der Plecopteren in ähnlicher Weise behandelt, wieder durch zahlreiche Textfiguren unterstützt. Der 3. Hauptabschnitt bringt allgemeine biologische und ökologische Betrachtungen über Aufenthalt, Anpassung, Sinnesleben, Ernährung, Wanderungen, Verwandlung, Feinde und Parasiten der Larven sowie über Bewegung, Flügel und Flug, Flugzeit und -Dauer, Ernährung, Kopulation, Eiablage etc. der Imagines. Gedanken zur Verbeitung der einheimischen Plecopteren, der Versuch einer vertikalen Gliederung nach Arten, ihre wirtschaftliche Bedeutung und ein ziemlich umfangreiches Literatur-Verzeichnis beschließen diesen Abschnitt und damit das ganze Werkchen.

Die beigegebenen 6 Tafeln bringen in 12 Bildern Darstellungen biologischer und ökologischer Natur, insbesondere aber solche von bevorzugten, wie auch plecopterenarmen Gebirgswässern. Auf der Karte sind die wichtigeren Gewässer Nordtirols eingezeichnet.

Es wäre zu wünschen, daß durch die vorliegende schöne Arbeit dem so überaus interessanten Kapitel der Entomologie recht zahlreiche neue Freunde gewonnen würden.

F. W.

**Remarks on E. R. Speyer's paper:
„Some common species of the Genus Thrips
(Thysanoptera)“.**

By H. Priesner.

In no. 1 of vol. XXI, Febr. 1934 of „The Annals of Applied Biology“ E. R. Speyer wrote an article under the above title which particularly contains criticisms of my work „Die Thysanopteren Europas“, and critical remarks on the way descriptions of Thysanoptera have been made by modern workers on this group, and on the present classification of the Thysanoptera in general.

As much as Speyer's endeavour to correct wrong statements is appreciated, I cannot agree with all of his corrections, and not at all with his pretentious attack on the present classification in general.

Speyer states (p. 121) that he encountered difficulties in making identifications of *Thrips tabaci* and *T. fuscipennis*, and that he found males of *tabaci* always associated with females of *fuscipennis*. He also adds „that it appeared probable that Priesner had assigned the wrong males to their respective females, and that he made an error in treating Uzel's species *T. major* as a variety of *T. fuscipennis* Hal.“.

Speyer is quite right in his opinion that *fuscipennis* is specifically different from *T. major*. I have already corrected this error in my paper: „Ergänzungen und Berichtigungen zu meinem Werke „Die Thysanopteren Europas“ (Konowia, XII, H. 3—4, 1933, p. 303)“, where I have also given a brief key for distinguishing the males of *T. tabaci*, *T. fuscipennis* and *T. major*. True that the description of the male of *fuscipennis* belongs to *T. major* only, and the description of the male of *T. tabaci* belongs to *T. fuscipennis*. Males of *T. tabaci*, which I know very well now, and those of *fuscipennis* had been mixed up in my collection and had originally led me to uniting Uzel's species *T. major* and *T. fuscipennis*.

About *T. banaticus* Kn., the last word is not yet spoken, specimens of the original locality have to be examined and compared with major as well as with the 'varieties' *dorsimaculatus* and *ustulatus* which unfortunately I have not at hand at present.

Speyer's notes on some distinguishing characters between the females of *T. fuscipennis* and *T. major* are valuable.

To III, p. 124. — It is known to every Thysanopterologist that the colouration and the length of the antennal segments vary considerably but nevertheless, the antennae are and will prove to be in the future a most valuable means of distinguishing species of any group of Thysanoptera. Speyer has proved this himself, in giving (p. 124) the measurements of the antennal joints 4 and 5 of 125 females of *T. fuscipennis* and 50 females of *T. major*, and found that the averages are different. Naturally it is difficult in some cases, e. g. to identify a small specimen of major or a large one of *fuscipennis*. I agree that in some doubtful cases, the structure of the abdominal segments may settle any doubt. But I am also convinced that variation exists in the abdominal segments as well as in their chaetotaxy, as I have recently proved for *T. (Isoneurothrips) orientalis*, a species which varies considerably in the number of accessory bristles of the sternites, usually an extremely reliable character for distinguishing Thrips species. Moreover, does Mr. Speyer know that the males of *T. viminalis* vary considerably in the size of the glandular areas of the sternites? I am mentioning this without intending to weaken the general value of this character.

As to the differences between the females of *T. physapus* and *T. validus*, only a beginner will confuse these two species or wrongly identify them.

I may add here that in 1921 already (Treubia, II, p. 1), I was emphasizing the importance to the student, of not relying so much upon special minute characters than to try to form oneself a general impression of every species („Artbild“), thus avoiding for instance the confusion of species as *T. praetermissus*, *T. montivagus* and *T. pillichii*, as it has occurred to Mr. Speyer.

To p. 126. — Speyer draws attention to the ocellar pigment as an important character for the distinction of certain species of yellow Thrips. This character is reliable only if fresh material is at hand, but how often one does get material for determination which had remained in alcohol for a long time. It is a well known

fact (Thys. Eur. p. 19; Stettiner Ent. Zeitg., 94, II, 1933, p. 184, Anm. 2) that the ocellar pigment is the first to dissolve in alcohol, and new species had already been based upon such specimens in which the ocellar pigment, originally present, has disappeared by the preserving liquid. I intentionally disregarded this character, and repeatedly (l. c.) warned my colleagues not to put much stress on it.

To doubt the taxonomic value of the chaetotaxy of the fore wing in Thrips, a character used with great advantage, since Thysanopterologists have been at work, is too much as not to raise objection. I have just issued a brief study of the Indomalaysian species of the genus Thrips, and took advantage of largely using the chaetotaxy of the fore wings for grouping and characterising the species.

In chapter IV (p. 127), Speyer discusses the value of the lengths of the larger bristles of the prothorax and on the terminal abdominal segments, and particularly objects to giving measurements in descriptions: „In descriptions it is unnecessary to add to the statement that setae according to the species dealt with are short, of moderate length, long or very long, terms which amply suffice in many instances, as valuable and constant adjuncts in the separation of species.“ This statement is as pretentious as it is erroneous. It was exactly owing to the difficulties that the more recent workers on Thysanoptera have encountered in identifying after older descriptions which contained no measurements, that they have adopted to give absolute measurements, and I can assure Mr. Speyer that all the recent workers, as Bagnall, Faure, Hood, Karny, Moulton and others will very likely not part from giving measurements of the macrochaetae in their descriptions; they all know the reason, thus it is no use teaching them retrogressive methods.

Chapter V deals with the variation in colour: „The colour of the several antennal joints has been largely and often minutely recorded in the description of species. Owing to variability in shading, especially of the distal five joints, no reliance can be placed upon differences between the females of various species. Males are far more constant in this respect. . .“ This is another statement having no foundation, since Speyer obviously does not know more than a few European Thysanoptera, and has therefore no experience as to the greater or lesser importance of the colouration of the

antennae. After many years study of various orders of insects, I may say that colouration can be a character of first class importance, and it is particularly so in Thysanoptera*), but it may be misleading to a beginner.

Of chapter VI, I am only quoting the last sentence (p. 129): „...with few if any exceptions, it is inadvisable to utilize at all the shape or proportions of the antennal joints as diagnostic characters.“ To follow this strange advise would mean depriving our descriptions of one of the most useful characters.

In the next chapter (VII), Speyer shows, how Thysanopterology has — let us say — run down, from Linnaeus and Haliday („the precision with which their work was carried out is quite remarkable“), over Uzel („some confusion already made its appearance“) and Hinds to Bagnall and Priesner („modern systematists have tended to rely, for the separation of species at least in the genus Thrips, upon detail of colouring, and comparative measurements“). That means retrogression instead of progress. I have only to add that all modern Thysanopterologists rely at present, based on their experience, on absolute measurements which alone are reliable.

The last chapter (VII, p. 132) deals with those characters which Speyer considers as most important. No doubt, they are interesting, and it is to be appreciated that Speyer has added some characters hitherto not applied in descriptions of Thrips L., e. g.

(1) and (2), minute setae upon segment 1 and 2 of the abdomen, but one must not forget that they are rudimentary organs.

(3) and (4) (bristles on the pleurites) may be valuable but are of not much practical use owing to their position, necessitating lateral mounts.

(5) („intermarginal setae“ on sternites) are well known already, introduced by Hood, and largely adopted by myself in my recent papers. There is no need for a new term, since Hood's term „accessory bristles“ is quite suitable.

(7), glandular areas in the male are well known as distinguishing characters (since Uzel), and as mentioned above, not more valuable than the antennae, the more the former are difficult to detect in some cases. The same applies to the arrangement of setae on the

*) Karny, in Abderhalden, Handbuch d. biolog. Arbeitsmethoden. — Lfg. 177, Abt. IX, Teil 3, Heft 2.

dorsum of tergite 9 of the male, largely used by all Thysanopterologists.

(9) („comb“) and (11) (teeth on tarsi) are very important but nothing new.

(10) (crescents of ocelli) are, as shown above, unreliable.

Another not only unnecessary but even misleading chapter is VIII, „The collection and preservation of specimens“. If Speyer states, I have recommended preservation in 95% alcohol, he had first to mention that the insects have first to be killed (and kept for some time) in 75 to 80% alcohol, in order that the appendages get and remain flexible, also when insects are later transferred into stronger alcohol.

Contrary to Speyer's statements, I have to warn any student of thrips:

1) Not to use Faure's fluid but only Canadabalsam or resinous substances like it. Canadabalsam keeps the natural colour of the insects for many years and does not become brittle, a. s. o. It is now being used by almost every serious Thysanopterologist.

2) In mounting, specimens should not be arranged in two or three rows but only two specimens at the most, placed under one coverglass, put on a slide (26 by 76 cm). Use fairly thin slides but do not use a large coverglass instead of the slide (it easily breaks).

3) Specimens should always be mounted dorsoventrally, only if a large series is available, some can be put laterally. (Fore legs of *Odontothrips* which have to be examined laterally, can be severed from the body.)

4) Do not treat thrips with potash if you have only a few specimens, you lose more characters for identification than you gain.

To p. 144. — *T. fuscipennis* and *T. sambuci* are valid species, not synonyms. *T. praetermissus*, *T. pillichi*, and *T. montivagus* are valid species, not synonyms. All are recognized as such by leading Thysanopterologists. Here Speyer repeatedly makes the same mistake, I made in confusing *T. fuscipennis* and *T. major*.

To chapter XI: „Some remarks upon the present classification of the Thysanoptera.“ Although I consider the author of this chapter not yet very capable of making remarks on this rather difficult question which can never be settled after the study of a few European species, I must quote one sentence of it: „The time is now at hand for a complete cessation of descriptions relating

to new genera and species." Should we cease work, according to Mr. Speyer's suggestion, when hardly 2000 species are known of about 8—10.000 (other authors expect much more) still unknown?

As to the summary, to 1) and 9): The classification of Thysanoptera is being continuously revised by all keen modern workers. No need therefore, of pointing to the necessity of a revision thereof.

To 2). There existed no confusion in the common species of Thrips except in considering *T. fuscipennis* and *T. major* as one species, while they are two, and in connexion with it, mixing up the males of *T. tabaci* with those of *fuscipennis*.

To 3). The new structural characters, as far as they are actually discovered by Speyer, though they may prove to be rather constant, will not replace these others (macrosetae on upper side, antennae, wings, colour), they are useful additions but not in all cases valuable for practical work, since they are more or less hidden, and therefore difficult to detect, and may even vary more than we know at present, as they are partly rudimentary organs.

To 6). The methods of mounting, suggested by Speyer are — modestly speaking — much less reliable, as far as the preservation of specimens is concerned, than those excellent methods, used after many years experience by Hood, Faure, and others.

Illustrations as those on page 125 (Textfig. 2) are very helpful, photographs, however, as Pl. VI and VII, are useless.

I think, I am speaking in the name of all serious workers, when I declare, that modern Thysanopterologists are ready to consider any serious criticisms wherever they come from, but they strongly object to any effort which has as its object the under-rating of their work in general.